

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) A position-sensitive detector for measuring charged particles comprising a crystalline substrate and a surface region, the surface region comprising an amorphous layer with a structured, metallic layer disposed above it, wherein the structure of the metallic layer continues through the amorphous layer and at least partially into the crystalline substrate.
2. (Canceled)
3. (Previously Presented) The position-sensitive detector according to claim 1, wherein the amorphous layer is formed from germanium or silicon.
4. (Previously Presented) The position-sensitive detector according to claim 1, wherein the metallic layer comprises aluminium, palladium or gold.
5. (Previously Presented) The position-sensitive detector according to claim 1, wherein the substrate is formed of germanium, silicon or a III-V compound.
6. (Previously Presented) The position-sensitive detector according to claim 1, wherein the structure of the metallic layer is formed from segments having a mutual spacing of less than 200  $\mu\text{m}$ .
7. (Previously Presented) The position-sensitive detector according to claim 1, wherein the amorphous layer is disposed on a semiconductor material.
8. (Previously Presented) The position-sensitive detector according to claim 3, wherein the amorphous layer is not doped.

9. (Previously Presented) Tomograph or Compton camera with a detector according to claim 1.

10. (Previously Presented) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 100  $\mu\text{m}$ .

11. (Previously Presented) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 20  $\mu\text{m}$ .

12. (Currently Amended) A method of producing a position-sensitive detector for measuring charged particles, comprising:

providing a crystalline substrate;

disposing on the substrate an amorphous ~~Gallium~~ Germanium layer;

disposing on the amorphous ~~Gallium~~ Germanium layer a metallic layer;

removing portions of the metallic layer, the amorphous ~~Gallium~~ Germanium layer and the crystalline substrate such that at least one structured electrode is formed.